

Y-12 leads PAD prototype development

"Can you hear me now?" If this catchphrase weren't already taken, it would make the perfect slogan for the Personal Annunciation Device or PAD, a miniature, non-nuclear-based, radio frequency receiver prototyped in part by the Y-12 National Security Complex.

Y-12 is leading a team of three Department of Energy/National Nuclear Security Administration sites to design,

for enhanced reliability, giving the user information on battery usage and signals. The first-of-its-kind device is smaller than a pager and uses commercially available parts.

"Way cool" is how Peter Angelo, principal investigator for the project, described the PAD. "The overarching technology is simple," said Angelo, "but we're applying it in a novel way to a high-consequence environment."

concept to design to prototype development to testing. "This time frame is a testament to the folks at Y-12, KCP and ORNL who worked as one team and used the development challenge of the PAD as the focal point for their efforts," said Tom Berg, PDRD manager for the project.

The PAD also has application outside of Y-12. "The warning applications are varied," explained Angelo. "Although we are

Y-12 PAD team members include Peter Angelo, Rich Bell, Tom Berg, Doug Craig, Mike Cruse, Paul DeMint, Kevin Finney, Dave Harvey, Earl Knoch, Don LaMaster, Gary Mason, George McPeters, John Miller, Tommy Rhea and Jim Younkin.

build and test the PAD, which will annunciate or notify its wearer of a criticality accident.

When activated, the PAD has concurrent alarms (vibrations, light, sound) and displays building information and alarm status. Self-checking or "intelligence" is embedded in the PAD

The Innovation Group, Y-12's highly creative think tank headed by Y-12 Senior Scientist Doug Craig, came up with the PAD idea in response to NNSA's concerns regarding the use of personal radiation detection instruments as notification devices.

The group then handed off the concept to a Plant Directed Research, Development and Demonstration technical team. The team looked at the features of existing pagers and cellular phones, but no single technology met all of their requirements—to be secure and reliable, be small, require little human interface and most importantly, guarantee annunciation where audibility is required.

The team further refined the concept and involved telecommunications and security personnel, system integrators, radio frequency identification specialists, criticality accident and alarm system experts and others from the Kansas City Plant and Oak Ridge National Laboratory, as well as NNSA regulators, to build a prototype.

The team's solution was developed in record time—just seven months from



The PAD prototype is about the size of a standard pager.

developing it with criticality events in mind, the PAD could easily be adapted for chemical, biological or any other event requiring rapid notification where traditional pagers are not adequate."

The next phase of the project will be to make the PAD smaller with custom parts and easy for users. "We want the user to have a 'set it and forget it' mentality," said Angelo.

Kevin Finney, Applied Technologies division manager, has high praise for the multisite development team: "I can't say enough about the super job the team has done. They solved this problem with an outside-of-the-box approach."

Don't forget!



Plan to attend
BWXT Y-12 Safety Expo
June 22
7 a.m. to 4 p.m.
Oak Ridge Mall

Denny's desk 'We just can't afford not to get better'



I spend a lot of time talking to folks in the plant. I meet monthly with managers, supervisors and employee groups to discuss what we're doing and why we need to do it. Those meetings are also a great opportunity for me to get feedback in a variety of areas.

First, I learn how well managers and supervisors get the word and are then able to get it out to everyone else. Just as important as how well they communicate the "what" is the "why"—so that everyone has a better understanding of what's going on. Secondly, the meetings provide a forum for feedback that cuts through the insulation a lot of managers might develop. My favorite meetings are the tough ones. Hard questions. Discussing the controversial issues. Getting it all out on the table. I leave those meetings feeling like we're really making some progress.

Lately, we've had a lot of discussion about procedures—something we got really good at developing over the years here at Y-12. Most of our procedures are just too long and complex, and we're working hard to streamline them so that only the information we have to have to get the job done—safely—is included. If we do that right, we save the government money, we stop wasting so much of your time and we move toward better efficiency. That's a good deal for everybody involved.

Fixing and updating old, lengthy procedures is all part of the same process of managing and working by our Fundamentals, which is why we're spending so much time and effort on our Fundamentals campaign. When changes happen—and they're happening a lot at Y-12—we have to keep our eyes on the larger goals, keep a tight grip on our common sense and not get sidetracked by outdated, cumbersome procedures that do more harm than good.

Changing the way we do business is not a choice for us. We just can't afford not to get better. Thomas Edison said, "Opportunity is missed by most people because it is dressed in overalls and looks like work." We have an opportunity to achieve greatness at Y-12. Let's roll up our sleeves, think smart, and embrace the change together.

Y-12 dismantlement program aids Air Force

In February, Y-12 shipped its first installment of excess Minuteman I aeroshells off site for destruction, recovery and recycling of materials and their disposition as waste. This shipment marks the culmination of a three-year effort to identify and select a way to securely and safely dispose of excess aeroshells.

In 2002, the National Nuclear Security Administration received a letter from the U.S. Air Force Nuclear Products Support Center at Kirtland Air Force Base responding to an NNSA proposal to help resolve storing excess aeroshells. The Air Force stated that it "no longer has an identified requirement" for the aeroshells and "welcomes NNSA's suggestion to provide disposition at an NNSA site as part of the dismantlement process." The Air Force said it would reimburse NNSA for the cost of disposition.

Faced with a projected increase in dismantlement activities and a corresponding need for storage space, Y-12 was facing a short-term storage crisis. Y-12's Dismantlement program manager and the support team began investigating the safe, secure disposition of excess aeroshells, but they ran into a real showstopper. The Nevada Test Site, the NNSA site expected to dispose of the aeroshells, was not allowed to accept materials falling under the provisions of the Resource Conservation and

Recovery Act if generated out of state. Y-12 had not built the aeroshells, and the Y-12 team was unaware that some hardware (e.g., metal fasteners) was made of RCRA-regulated materials.

Parts of the aeroshell could be properly disposed of through other paths but finding one to handle the entire demolition and disposal process was the most secure and cost-effective option for the Air Force since it was funding demolition and disposal.

The project team looked into a variety of options, eventually finding a private-sector hazardous waste recovery and recycling vendor. The Department of Energy's Oak Ridge Operations Office and NNSA's Y-12 Site Office helped obtain a contract with a vendor licensed to process hazardous materials. The vendor will melt down and recycle the metal components for use in reactor shielding blocks for DOE. The non-RCRA components will be burned in a licensed industrial incinerator with the resulting waste being disposed of at a licensed disposal site.

Y-12's diligence resulted in a win-win situation. The Air Force is relieved of paying storage costs for something no longer needed. Y-12 avoids potential storage crises and other adverse effects on operations while a hazardous material is put to productive use and kept out of the environment.

Y-12 in the NEWS

Cardboard ship sets sail

The wind was blowing a gale and the water was choppy and cold, but the crew of Y-12's boat, *The Callie*, braved the elements to participate in Oak Ridge's First Annual Dogwood Arts Festival Cardboard Regatta.

Engineers Preston Cloud and Ryan Williams, along with their friend Matt Osbourne, based their design—which could only consist of cardboard and duct tape—on cardboard tubes. Their creativity won the team the “Who would have thunk it” award (for the boat least likely to succeed), although the team says they were going for the ugliest.

The Callie was the first boat to race, and when the boat tipped shortly after launch, both Williams and Osbourne went into the cold water.

“The water was actually warmer than the outside air,” Williams said.

“I was a little disappointed in the number of boats,” said Cloud. “But this was the first year for this cardboard race, and we’re planning big things for next year.”

The Cardboard Regatta was the finale to the 2005 Masters Rowing Association-Dogwood Regatta.



Matt Osbourne (back) and Ryan Williams (front) won the “Who would have thunk it” award at the Dogwood Arts Festival Cardboard Regatta.

Uncommon access to Y-12 being offered

As part of the City of Oak Ridge's annual “Secret City Festival,” Y-12 is offering a rare opportunity for the public to visit a historic building that contains the last remaining electromagnetic separation devices—or “calutrons”—used in World War II.

The 90-minute tours, available only to U.S. citizens, will be held Saturday, June 18, beginning at 9 a.m. and ending at 5:30 p.m. Everyone must register to attend and complete a security screening before they can participate in the tour. Proof of U.S. citizenship is required.

Visit <http://www1.y12.doe.gov/news/events/secretcity/registration.php> or call 574-1640 for more information.

—Excerpted from *The Oak Ridger*, May 13, 2005

McCrosky reelected

Financial Management's Wanda McCrosky was reelected to the ORNL Federal Credit Union's board of directors. McCrosky has completed three three-year terms and also serves as secretary. She is also a member of several credit union committees and serves as the Policy Committee's chairperson. In this position, she created the first *Board of Directors Policy Manual*, which details the expectation of board members.

McCrosky is also the treasurer of the Y-12 Employees' Society.



Wanda McCrosky of Financial Management.

Y-12 publications win MarCom awards

Members of the Y-12 Public Affairs and Communications staff garnered awards from MarCom Creative Awards, an international competition for marketing and communications professionals. Entries come from corporate marketing and communications departments, advertising agencies, public relations firms, graphic design shops and freelancers.

Platinum Award for employee publication/internal report category—*The Renewed Spirit Quarterly Report*

Managing editor: Patrick McCoy

Associate editors: Kathryn King-Jones and Heidi Spurling

Art and design director: Sandra Schwartz

Photography: Kathy Fahey, Terry Marlar and Brett Pate

Gold Award for employee publication/internal newsletter special edition category—*BWXTymes 60th Anniversary Issue*

Managing editor: Melissa Leinart

Writers/editors: Kathryn King-Jones and Heidi Spurling

Graphic designer: Sandra Schwartz
Photography: Brett Pate

Honorable Mention for employee publication/newsletter category—*BWXTymes*

Managing editor: Melissa Leinart

Writers/editors: Kathryn King-Jones and Heidi Spurling

Graphic designer: Sandra Schwartz
Photography: Brett Pate

ST MALL EN

IDLE
CHATTER
DOES
MATTER

NASA

BWX2
2012

THINK
OPSEC

Although access to the first level of the kingdom is fairly easy to obtain—address, phone number, place of work—it's the higher

If you become involved in a good conversation with someone you don't know well, Wantland advises proceeding with caution. If you feel that someone is standing a little too close to you at the ATM or while you enter your password, ask him or her to step back. These are relatively simple ways to stymie a deceptively simple scheme.

Knott said the latest revision of the SSSP is under way and is due to NNSA in late June.

Civil penalties for information security violations

BWXT Y-12 is still evaluating the impact of 10 CFR 824, *Procedural Rules for the Assessment of Civil Penalties for Classified Information Security Violations*, which became effective on Feb. 25, 2005.

Basically, this CFR allows the Department of Energy/National Nuclear Security Administration to assess civil penalties against contractors and subcontractors for violating the protection of classified information. Two main categories of events/conditions include:

- new violations/events or conditions involving violations of regulations, rules or orders involving classified information, including Restricted Data, Formerly Restricted Data and National Security Information and

- continuing violations/events or conditions involving protection of classified information as described above.

The first category parallels DOE Order 471.4, *Incidents of Security Concern*. IOSCs should continue to be reported as required.

DOE will use a severity index to analyze the loss, failure to protect or condition. There are three levels of potential penalties ranging from \$10,000 (Level III) to \$100,000 (Level I) per day, per incident.

BWXT Y-12 will also evaluate corrective actions that are developed involving classified information to determine if potential 10 CFR 824 issues exist. The Corrective Action Plan System and the Issues Management Prioritization and Risk Board will be used to track issues that result in findings.

So, what's the bottom line?

As with any risk, prevention of the occurrence is the primary goal. To reach that goal employees should:

- share any lessons learned and other preventive measures and
- report potential IOSCs to management and Information Security promptly.

Though details of the DOE enforcement program are not yet available, the CFR does state the "single most important goal of the DOE enforcement program is to encourage early identification and reporting."

More details will follow on YSource as they become available. Questions regarding this issue may be referred to Dan Baker, Safeguards and Security, 576-9560.

Security plans protect Y-12

The *Y-12 Site Safeguards and Security Plan* provides a snapshot of how facilities are protected. Supporting documentation for the security strategy in the SSSP is provided in separate security plans for the various security areas at Y-12.

Security plans are integral, required components of certifying, recertifying or decertifying security areas at Y-12. The Department of Energy Manual 473.1-1 defines a security area, and Y-12 Physical Security participates in walkdowns to determine these designations.

Security plans must also be prepared or revised when a building, complex or area is physically modified or when there are significant changes not addressed in an already approved security plan for the building, complex or area. Y19-009, *Certifying, Recertifying and Decertifying Security Areas at the Y-12 National Security Complex*, and Y19-205, *Manual for the Development of Security Plans for Security Areas at the Y-12 National Security Complex*, contain guidance for developing these plans.

For new buildings, complexes or areas, the project manager typically prepares the security plan. Operations managers, building/complex owners or custodians, project managers or other managers of activities in the affected area may prepare the plan for an existing building, complex or area. The manager of Physical Security and others, such as Production Facility managers (as defined in Y19-205), must approve the plan for certifying or recertifying a security area.

S&S launches new Web site



Safeguards and Security's new Web site provides an overview of S&S at Y-12, including information on S&S major focus areas: people (including badges, clearances and the Human Reliability Program); property (including nuclear material control and site access) and information (including manuals, computer security, classification and Operations Security or OPSEC). S&S resources, such as Security Awareness Bulletins, the *Safeguards & Security Sentinel*, forms, procedures and training, are available on the site, as well as contact information and related links.

Y-12 Fundamentals—Live by principles, not just rules

Y-12 Fundamental 8—there are no stupid questions

Unsafe? Unclear? Question It!

Fundamental 8 is championed by Kevin Finney, division manager of Applied Technologies.

If work direction appears unsafe or unclear, stop and insist on resolution.

It's a tough environment that we live in at Y-12. Our business is complex and highly technical. We have to deal with a wide range of hazards every day: nuclear and other hazardous materials, chemical, industrial and construction. Because of the nature of our work, we are a high-security facility.

To ensure compliance with our requirements, we are highly regulated and have detailed, technical and prescriptive procedures. As a facility, we adhere to overriding principles of the Integrated Safety Management System and Conduct of Operations.

We are all accountable for the safety, security and mission at Y-12, so, if something appears unsafe or unclear, question it! Insist on resolution.

PERFORMING OUR WORK SAFELY AND EFFECTIVELY ...

- We must develop a questioning attitude. If something appears unsafe, wrong or unclear, do not rely solely on your own understanding or interpretation. Check with someone.
- We have to continually assess the environment. Ask "What if?" and "What could go wrong?"
- We need to value diversity of opinion. Always consider the minority opinion, listen to the viewpoints of others and reward and promote questions.

Engineering scholarship winner



Will Crabtree, a junior in the College of Engineering at UT, was awarded the 2004–2005 BWXT Y-12 Engineering Scholarship. Pictured with Crabtree is Pam Horning, director, Uranium Manufacturing Modernization.

William (Will) Crabtree, a graduate of Cookeville High School and a junior in the College of Engineering at The University of Tennessee, is the recipient of the 2004–2005 BWXT Y-12 Engineering Scholarship.

In his application letter, Crabtree, a major in biomedical engineering, said, "Without the generosity of the university and its supporters, it would not have

been possible to achieve the level of success I have thus far enjoyed."

The recipient of the \$2,000 yearly scholarship is announced each spring by the UT College of Engineering Scholarship Selection Committee.

In an e-mail message to Pam Horning, Crabtree expressed his "great appreciation for BWXT Y-12's support. It is a great honor to be associated with such an institution. On behalf of The University of Tennessee, I would like to thank BWXT Y-12 for supporting the College of Engineering and its continued partnership with The University of Tennessee."

Bad Signs! A sign of change



Arlene Tapp of Manufacturing noticed a few outdated signs that direct employees and visitors to portals.

Tapp wrote, "I noticed the big green signs at each portal (traffic light) and thought they probably needed to be corrected, updated or removed."

The Y-12 construction has changed a few portals, and these signs are no longer accurate.

"To me, new signs need to be installed at each of the portals because most are faded, the verbiage is not correct in some cases and it would just make Y-12 look better," Tapp concluded.

If you notice a confusing or outdated sign at Y-12, forward the sign location and a brief description of the wording to Melissa Leinart (6ml) of Public Affairs and Communications or via telephone at 574-1621. If your example is used in a future issue of the *BWXTimes*, you will receive a Y-12 golf umbrella.

MARCH

45 Years

Financial Management: William R. Ragland

35 Years

Facilities, Infrastructure and Services: William C. Brown Jr., Robert B. Buell and William D. Hammond

Information and Materials Division: James A. McCleary

Manufacturing: Michael E. Davenport, Homer Gallaher, Robert D. Hill and Calvin L. Vowel

Quality Assurance: Carl E. Bennett Jr., Terry B. Holder, Edward L. Johnson Jr. and Willie T. Thomas

30 Years

Contracts and Special Initiatives: Charlene C. Edwards

Facilities, Infrastructure and Services: Gerald O. Bacon, Jack F. Guettner, Jerry L. Poe and John D. Rader

Quality Assurance: Michael A. McGaha

Directed Stockpile Work: Sherry M. Crass
Environment, Safety and Health: Sandra J. Foster and Janet S. Murrill

Human Resources: Stephanie A. Cale, Sonya L. Graham and Connie A. Polson

National Security Programs: John A. Getsi and LaDonna D. Meyer

Planning and Integration: Barbara A. Pope

Quality Assurance: Milton G. Kreger

Applied Technologies: Michael E. Johnson

Engineering: Richard S. Underwood Jr.

Quality Assurance: James D. Davies and Rudolph N. Escher

APRIL

35 Years

Engineering: John R. Jackson

Facilities, Infrastructure and Services: Renfro Henderson Jr., James A. Montgomery and Franklin D. Wilson

Information and Materials Division: Richard D. Jarrell



Manufacturing: Duane L. Craig

Quality Assurance: Robert D. Gray

30 Years

Applied Technologies: Virgil B. Campbell
Environment, Safety and Health: Janice S. Gardner

Facilities, Infrastructure and Services:

Steven D. Elkins, Michael S. Foley, Deborah W. Long and John R. Thompson

Manufacturing: Roderick F. Garrett and Donald E. Voiles

Quality Assurance: Robert A. Spahr

25 Years

Engineering: Gerald A. Byington

Financial Management: Karl E. Rapp III

Information and Materials Division: Rebecca S. Bevins

Quality Assurance: Allen K. Headrick and Gregory G. Howard

20 Years

Planning and Integration: Karen S. Grant

Quality Assurance: Dianna D. Altom

MAY

54 Years

Manufacturing: James E. Thompson Jr.

42 Years

Engineering: James P. Kois

35 Years

Information and Materials Division: James D. Huddleston

Quality Assurance: Harold E. Warrington

30 Years

Applied Technologies: Milo T. Gresham
Environment, Safety and Health: Wade M. Bradley

Facilities, Infrastructure and Services: James H. Bishop, Michael E. Dobson and Howard C. Pedigo Sr.

Manufacturing: Sylvia B. Lawhon

25 Years

Manufacturing: Charles M. Allen, Harry E. Harper and Virginia L. Joiner

Environment, Safety and Health: Victoria W. Phillips

20 Years

Applied Technologies: Oscar B. Cate

Human Resources: Shirley J. Cox

Quality Assurance: Glenda M. Hill

Applied Technologies leads IPTT initiatives



Kevin Finney, Applied Technologies division manager, is current chairperson of the Interplant Technology Team. The IPTT is a group of technology leaders from the Nuclear Weapons Complex who meet quarterly to discuss crosscutting technology issues that are

of interest to the entire complex. Formed in 2000, the group is comprised of representatives from the Kansas City Plant, Lawrence Livermore National Laboratory, Los Alamos National Laboratory, Pantex, Sandia National Laboratories, the Savannah River Site and Y-12.

The mission of the IPTT is to ensure that member sites operate more efficiently by sharing technologies and lessons learned for the common good. The IPTT also provides direction for the Network of Senior Scientists and Engineers, comprised of senior technologists from each site in the complex.

The IPTT is currently engaged in a study of the complex and is looking to industry to provide answers to the question of how to transition technology from development to production more effectively. Mike Baker of Technology Development is leading a team with the NSSE chair (Chris Baumgart of KCP).

Finney noted, "We recently met to discuss the ADAPT Technology Investment Proposals to facilitate cross-complex collaboration. We connected several folks across the complex to reduce redundancy in the proposals and recommended several that appeared to have the most promise."

Y-Bay online auction

Visit the Y-12 online auction at www.y12.doe.gov/public/business/sales.

- In order to bid, you are required to register.
- You **cannot** use your Y-12 e-mail account.
- You must register a valid e-mail account (home account) because the system will be sent to the e-mail specified.
- Each bidder agrees to the terms and conditions of the sale.
- Local pickup only at the Sales Warehouse at 1916-T2 Warehouse Road in Oak Ridge.
- The Sales Web site is on the public domain; therefore, the public is allowed to bid on items.

Call Betty Hatmaker (574-3973) or J.D. Huddleston (576-1451) if you have questions.



BWXTymes

Volume 5, No. 3

June 2005

P.O. Box 2009

Oak Ridge, TN 37831-8245

Melissa Leinart, editor

865-574-1621 (6ml)

Bldg. 9109, MS 8245, Oak Ridge, Tennessee 37831

Other contributors:

David Baumgardner

Amy Bush

Beth Eckerman

Kathy Fahey

Kevin Finney

Stuart Hames

Lisa Harris

John Holbrook

Kathryn King-Jones

Patrick McCoy

Brett Pate

Patty Shea (University of Tennessee)

Heidi Spurling

Sandra Schwartz

Mike Watkins

PRSRT

STD

PAID

U. S. Postage

Permit #36

Powell, TN